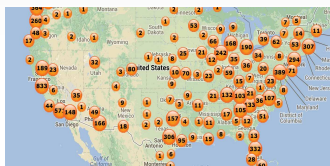




Charging Trends

May, 2014

The ChargePoint Network



17,000
charging
stations



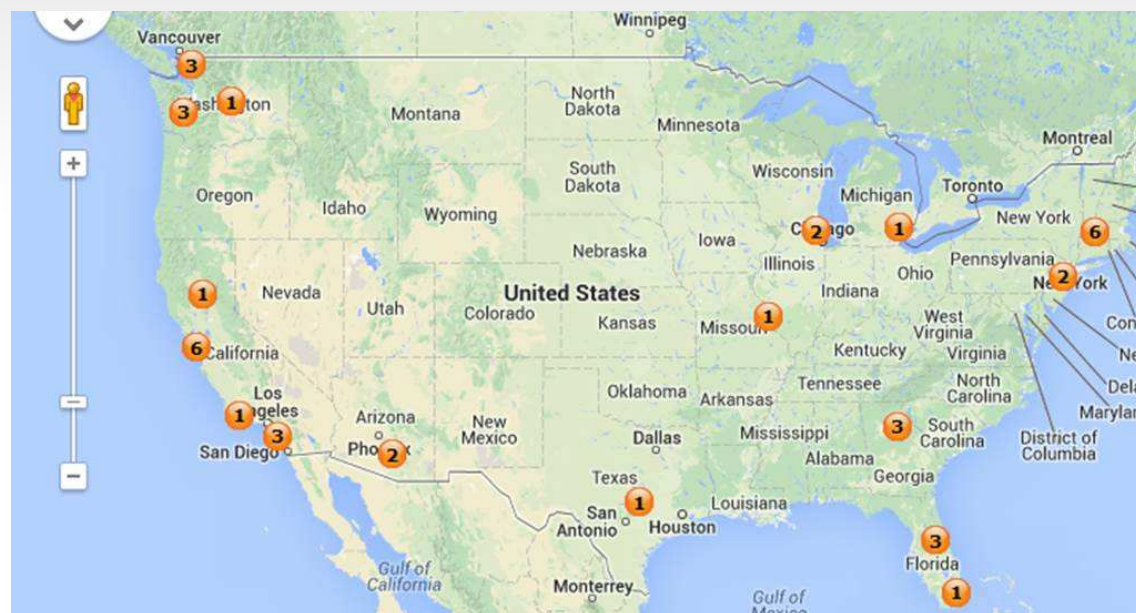
65,000
EV drivers carry a
ChargePoint card



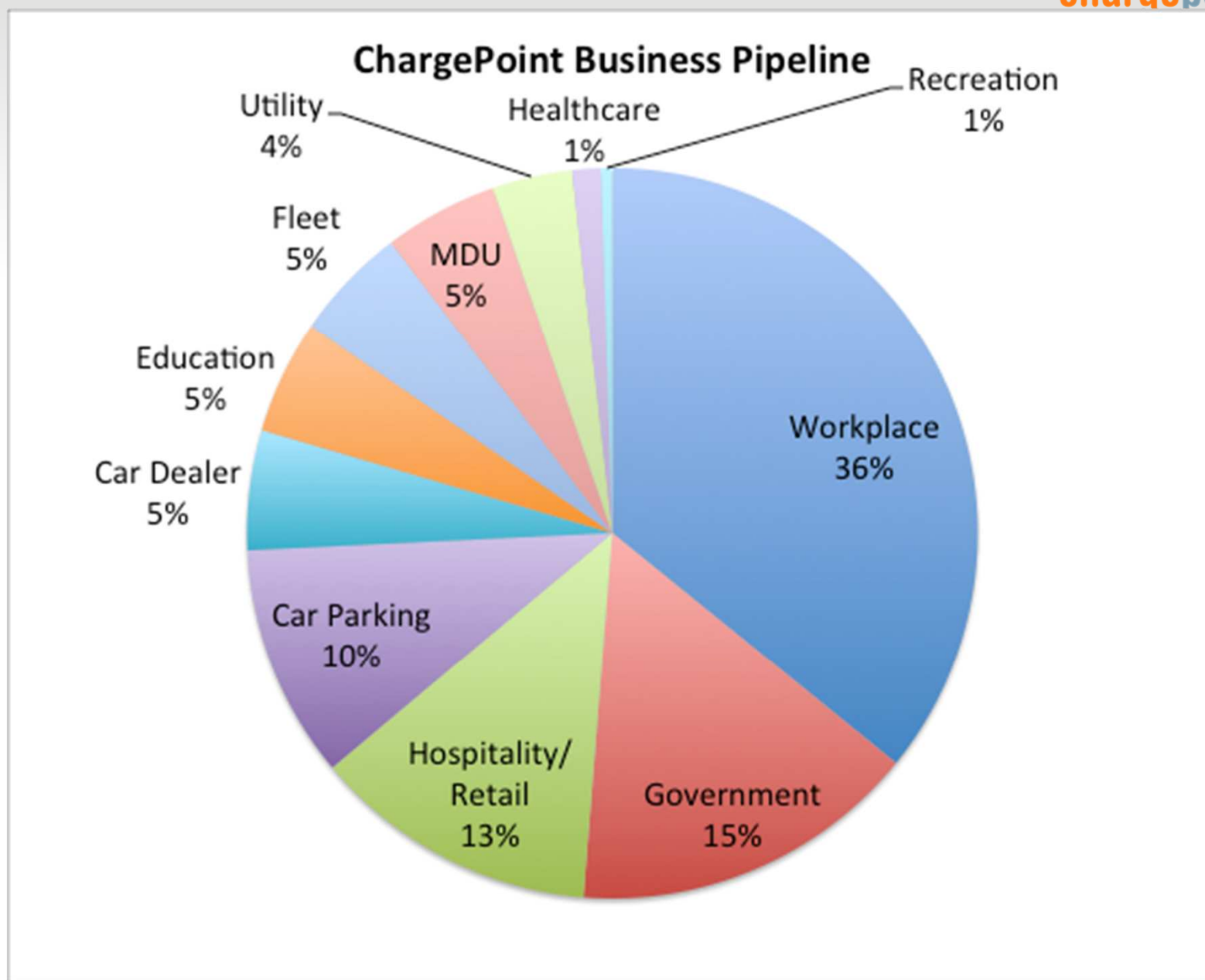
1,900+
organizations use
ChargePoint

*Every 9 seconds, someone plugs into
ChargePoint – 5 Million charges to date*

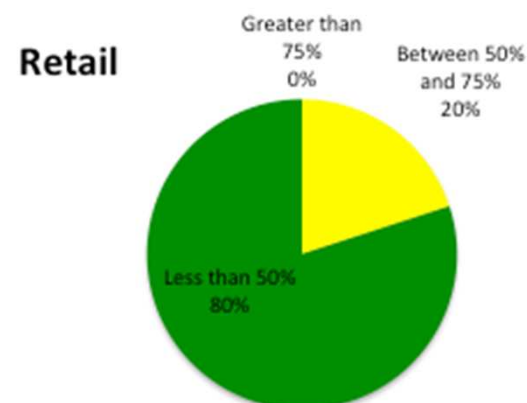
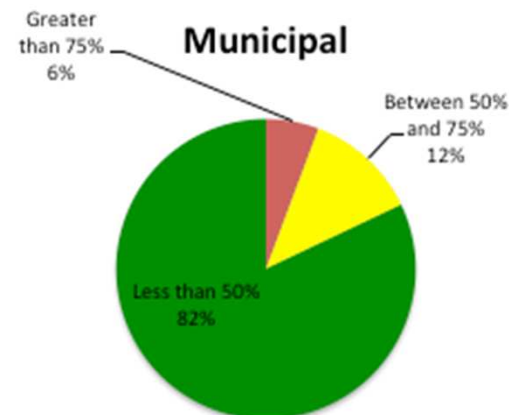
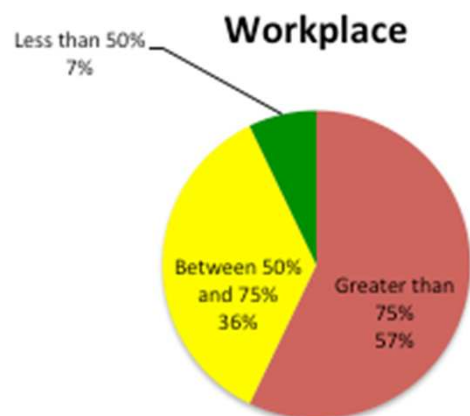




- + We're installing 1 a day in the US
- + They can pay their way except....
- + Demand charges are killers
- + In Hawaii is Demand Charges are waived for vehicles



Workplace Stations are Busy

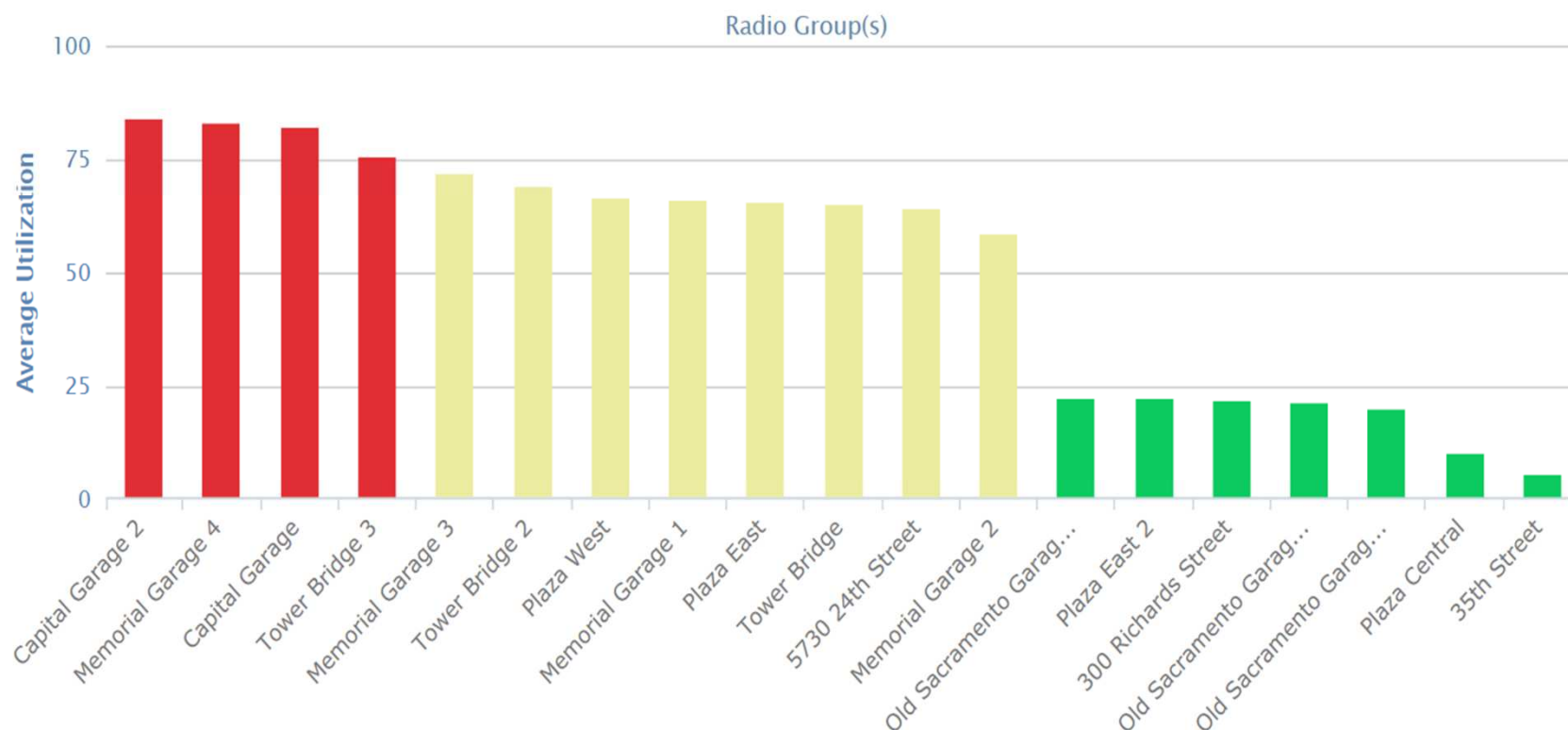


We need to relieve the hot spots

Profile of Station Utilization – Location Matters!

[Back](#)

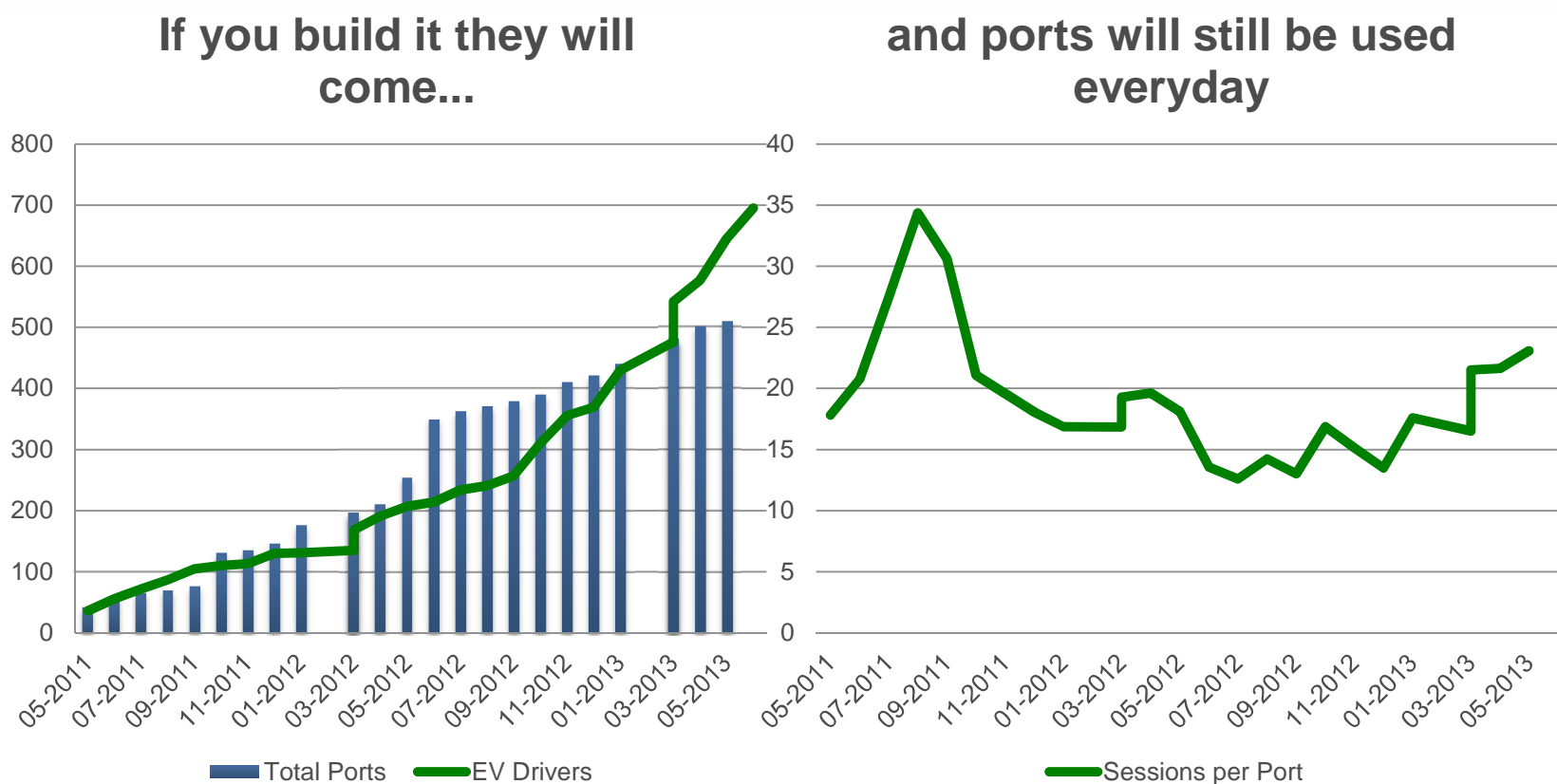
City of Sacramento Average Utilization Last 30 Days



- *Utilization characteristics of our leading customers are indicative of future potential*
- *Location drives utilization! Poorly located ports distort utilization trends.*

Case Study: Major CA Workplace Customer

+ Infrastructure investment stimulates EV adoption!



Quantifying California's EV Infrastructure "Gap"

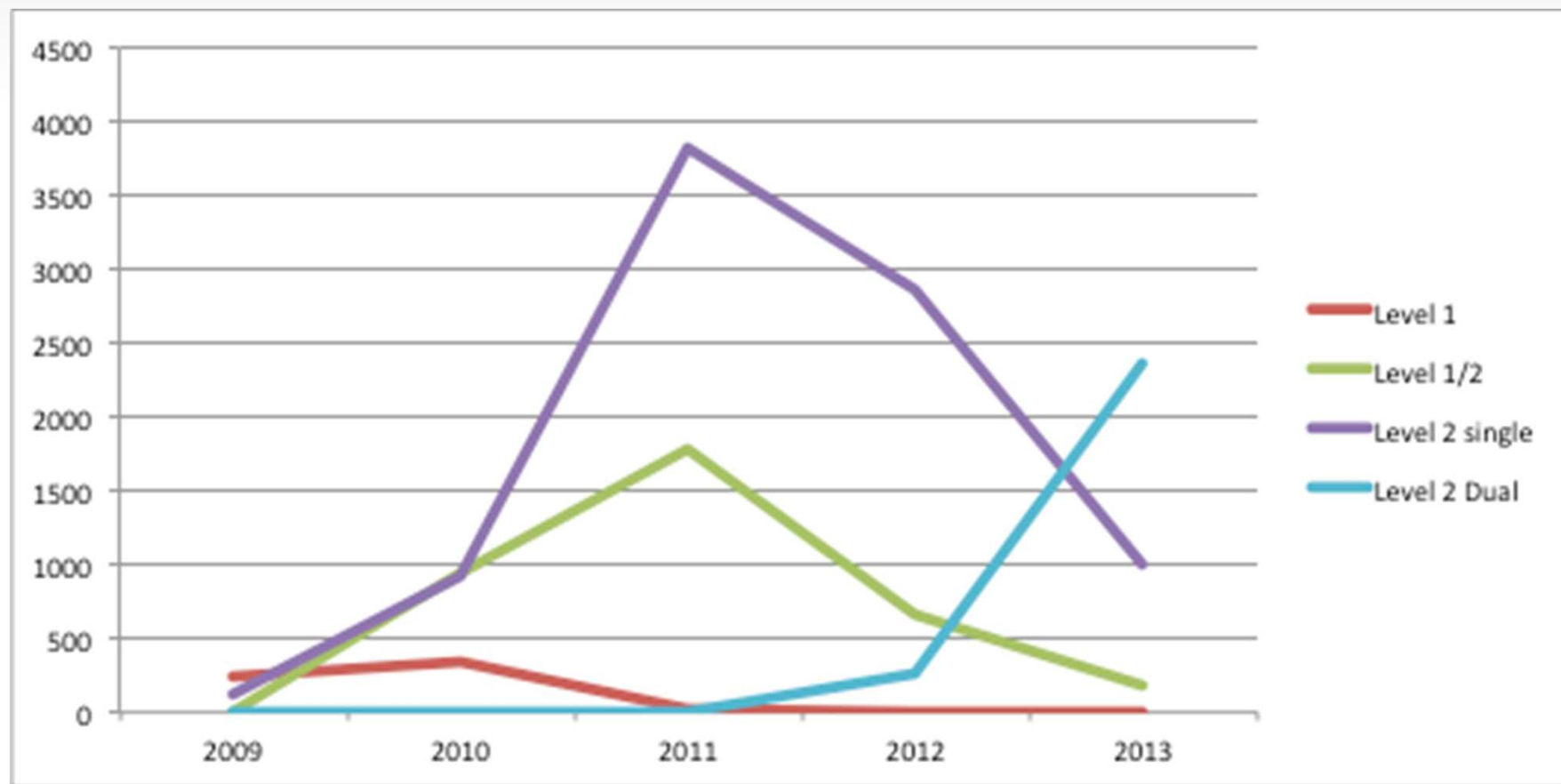
Attach Rate: Relationship between EVs & public EV ports—defined as # of "public" EV ports deployed per EV sold ("public" defined as non-single family residential)

- **50% Attach Rate:** Short-term "target" rate to support rapid pace of EVs sold in next 5-10 years
- **15% Attach Rate:** Historical relationship observed in ChargePoint's charging port portfolio, which has already generated complaints from EV customers regarding lack of public EV infrastructure
- **5% Attach Rate:** Unsustainable public EV infrastructure platform and will retard new EV adoption

Projected EV/PHEV New Car Sales Projected Growth (Cumulative Sales)						
	2012 Registered EV Cars	2012 Public EV Charging Ports (# of Ports)	2015 Projected Cumulative EV Cars (Est # of cars)	Required 2015 Public EV Charging Ports(50% Attach)	2020 Projected Cumulative EV Cars (Est # of cars)	Required 2020 Public EV Charging Ports (50% Attach)
CA	29,640	4,348	90,625	45,312	442,895	221,448
US Total	76,133	17,203	391,672	195,836	2,006,143	1,003,072

Based on conservative Pike Research projections for EVs sold, California needs approximately \$1 billion in "public" charging ports by 2020!

Level 1 no Longer Sells



Setting a price on charging increases utilization

- + Average stay at our 17,000 stations is 6 hours
- + Average stay for a pay for use station is 3.2 hours
- + Average stay for a pay by time station is 2.5 hours
- + Want more station availability? – charge for its use

Optimizing Infrastructure

These are all estimates

Plan→	Single Port L2 with point-to-point conduit	Dual Port L2 with point-to-point conduit	Dual Port L2 in a 3-station cluster	Dual Port L2 cluster charging \$1 an hour	L1 in 6 station cluster
Infrastructure costs per car served	\$13,000	\$8,000	\$5,333	\$1,800 (3 per day on each clustered port)	\$2,800
Monthly revenue to host for 6 port cluster				\$1000 (8 hours of billing per day per port, 21 days per month)	
Happy Drivers	yes	yes	yes	Yes: they have to pay but there's a lot more infrastructure	No: slow and using travel cords
Opportunity to take advantage of low cost energy	yes	yes	yes	Yes, could save \$500 a month (20 cents per kwh)	No
Energy delivered per day per driver	7 kwh	7 kwh	7 kwh	7 kwh	7 kwh

Recommendations

- + Fund expansion of busy station locations
- + Have utilities rate base make readies
- + Use LCFS money to either make charging free or remove demand charges – too much overhead otherwise
- + Make free charging periods of the day

Stations now serve two drivers per day

